



16/Response
PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

the application of

Docket No: Q62756

Yukio KUROIWA, et al.

Appln. No.: 09/765,378

Group Art Unit: 2876

Confirmation No.: 1049

Examiner: A. Kim

Filed: January 22, 2001

For: MAGNETIC CARD READER AND METHOD OF DEMODULATING MAGNETIC DATA

RESPONSE UNDER 37 C.F.R. § 1.111

Commissioner for Patents
Washington, D.C. 20231

Sir:

In response to the Office Action dated November 15, 2002, please consider the remarks as submitted herewith.

Claims 1-5 are all the claims pending in the application.

Claims 1-5 stand rejected as allegedly being unpatentable over Ohno et al. (US 5,498,860) in view of Nakajima (US 5,408,531). Applicants respectfully traverse the rejection as set forth below.

Applicants submit that the applied references fail to teach or suggest all of the limitations of independent claim 1. In particular, the references do not teach or suggest the limitation of two magnetic heads arranged in a direction, in which each of the magnetic heads relatively moves with respect to the magnetic card, and taking the same data from the magnetic card and obtaining

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two demodulated data with a single movement of the magnetic card relative to the magnetic heads.

Fig. 5 of Ohno et al. illustrates a mechanical portion of a card processing apparatus. FIG. 5 includes a prepaid card 30; a card insertion port 31; a magnetic read head 32 for reading magnetic information from a magnetic recording layer 21 of the prepaid card 30; a magnetic write head 33 for writing updated information on the magnetic recording layer 21 of the prepaid card 30; a magnetic read head 34 for reading magnetic information recorded on the magnetic recording layer 21 of the prepaid card 30 to perform collation; a thermal head as a thermal recording means 35 for recording information on a thermally foamed layer 23 of the prepaid card 30 in braille; platen rollers 36; a convey path 37 for the prepaid card 30; and a card ejection port 38. The platen rollers 36 are driven by a common drive source (not shown) to convey the prepaid card 30 from the card insertion port 31 to the card ejection port 38 along the convey path 37. The magnetic heads 32, 33, and 34 and the thermal head 35 are respectively driven by driving circuits. See col. 6, lines 5-27.

As shown in FIG. 7, when the prepaid card 30 is inserted in the card insertion port 31, the CPU 40 receives a signal from a card insertion detector to drive the card convey/drive system, thus conveying the prepaid card 30 to the magnetic read head 32 (step S1). The magnetic read head 32 reads information associated with the current balance and the current section from the magnetic recording layer 21 of the prepaid card 30 (step S2). The read information is sent to the CPU 44 of the balance/braille recording designation section 41 via the circuit 45. The CPU 44 calculates a fare by referring to the fare table 42 on the basis of the section information, and calculates a new balance (step S3). The new balance information calculated in this manner is

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written on the magnetic recording layer 21 by the magnetic write head 33, thus updating the balance information on the magnetic recording layer 21 (step S4). The updated balance information is read by the magnetic read head 34 and collated with the updated balance information stored by the CPU 44, thereby determining whether the balance information is properly updated (step S5). See col. 6, line 58 - col. 7, line 6.

In other words, magnetic read head 32 reads current balance information and magnetic read head 34 reads the updated balance information that was written by the magnetic write head 33. Thus, magnetic read heads 32 and 34 do not read the same data from the magnetic card. Therefore, Ohno et al. do not disclose or suggest two magnetic heads arranged in a direction, in which each of the magnetic heads relatively moves with respect to the magnetic card, and taking the same data from the magnetic card and obtaining two demodulated data with a single movement of the magnetic card relative to the magnetic heads, as required by independent claim 1.

Since Nakajima fails to make up for this deficiency of Ohno et al., claim 1 and its dependent claims 2-5 are believed to be allowable.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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Date: February 3, 2003